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09/937,240	09/21/2001	Yasushi Waki	NAK1-BP99	6248

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EXAMINER
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ART UNIT	PAPER NUMBER
2614	4

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/937,240	WAKI ET AL.
	Examiner	Art Unit
	Trang U. Tran	2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-21</u> is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-13 and 16-21</u> is/are rejected.
7)☒ Claim(s) <u>14 and 15</u> is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☒ All   b)☐ Some * c)☐ None of:
   1.☐ Certified copies of the priority documents have been received.
   2.☐ Certified copies of the priority documents have been received in Application No. _____ .
   3.☒ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date <u>3</u>.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1-13 and 16-21 are rejected under 35 U.S.C. 102(e) as being anticipated

by MacInnis et al. (US Patent No. 6,661,427 B1).

In considering claim 1, MacInnis et al discloses all the claimed subject matter,

note 1) the claimed first obtaining means that obtains the composition information

including an image compositing order, the composition information being used for

calculating a composition ratio of each of the images to the final composite image is met

by the window control block 84 which obtains and stores graphics window descriptors

from memory and uses the window descriptors to control the operation of the other

blocks in the graphics display pipeline and the window descriptors may include, for

example, image pixel format, pixel color type, alpha blend factor, location on the screen,

or other parameters (Figs. 3 and 4, col. 6, lines 34-60 and col. 11, line 30 to col. 15, line

42), 2) the claimed first compositing means that composites the graphical images to

generate one composite graphical image according to the composition information is

met by the graphics blender 140 of the display engine 58 which blends the YUV 4:2:2

signals together, preferably one line at a time using alpha blending, to create a single

line of graphics from all of the graphics windows on the current display line (Figs. 3 and

5, col. 5, lines 37-51 and col. 9, line 52 to col. 10, line 9), 3) the claimed calculating

means that calculates a composition ratio of the video image to the final composite

image according to the composition information is met by the CPU which processes of

blending video and graphics surface (Figs. 28-30, col. 45, line 1 to col. 50, line 46), 4)

the claimed second obtaining means that obtains frames of the video image is met by

the passthrough video signal (Fig. 3, col. 8, line 36 to col. 9, line 10), and 5) the claimed

second compositing means that composites one of the obtained frames at a time with

the composite graphical image using the composition ratio of the video image is met by

the video compositor block 108 which blends the output of the graphics display pipeline,

the video display pipeline and the passthrough video using the alpha value (Figs. 28-30,

col. 9, lines 11-21 and col. 45, line 1 to col. 50, line 46).

In considering claim 2, the claimed wherein the composition information further

includes: coefficients, each of which corresponds to a different one of the images is met

by the window descriptors may include, for example, image pixel format, pixel color

type, alpha blend factor, location on the screen, or other parameters (Fig. 4, col. 6, lines

34-60 and col. 11, line 30 to col. 15, line 42), and the claimed arithmetic information

which has blending algorithms which each correspond to the images, the blending

algorithms using the coefficients is met by the video compositor block 108 which blends

the output of the graphics display pipeline, the video display pipeline and the

passthrough video using the alpha value (Figs. 28-30, col. 9, lines 11-21 and col. 45,

line 1 to col. 50, line 46).

In considering claim 3, MacInnis et al discloses all the claimed subject matter,

note 1) the claimed further comprising a first frame buffer that stores images, and a

second frame buffer that stores frames of the video image, wherein the first compositing

means reads the graphical images obtained by the first obtaining means, according to

the image compositing order, composites each of the read graphical images with a

storage content of the first frame buffer using the coefficients and the arithmetic

information, and replaces the storage content of the first buffer with a result of

compositing one of the read graphical images with the storage content is met by is met

by the graphics blender 94 or 140 of the display engine 58 which blends the YUV 4:2:2

signals together, preferably one line at a time using alpha blending, to create a single

line of graphics from all of the graphics windows on the current display line and the

blending block uses the output from the converter block to modify the contents of the

SRAM 96 (Figs. 4 and 5, col. 7, line 16 to col. 8, line 14 and col. 9, line 52 to col. 10, line

9), 2) the claimed the second obtaining means stores the obtained frames in the second

buffer the FIFO block 100 which temporarily stores captured video windows for transfer

to the video scaler 104 (Figs. 4 and 5, col. 8, line 35 to col. 9, line 10), and 3) the

claimed the second compositing means composites each of the frames stored in the

second buffer with an image in the first frame buffer using the composition ratio of the

video image is met by the video compositor block 108 which blends the output of the

graphics display pipeline, the video display pipeline and the passthrough video using the alpha value (Figs. 28-30, col. 9, lines 11-21 and col. 45, line 1 to col. 50, line 46).

In considering claim 4, the claimed wherein the first compositing means performs a blending algorithm on the image in the first frame buffer using a coefficient and arithmetic information corresponding to the video image after compositing a graphical image immediately preceding the video image in the compositing order and before compositing a graphical image immediately succeeding the video image with the storage content, and replaces the content of the first frame buffer with a result of the blending algorithm is met by the graphics blender 94 or 140 of the display engine 58 which blends the YUV 4:2:2 signals together, preferably one line at a time using alpha blending, to create a single line of graphics from all of the graphics windows on the current display line and the blending block uses the output from the converter block to modify the contents of the SRAM 96 (Figs. 4 and 5, col. 7, line 16 to col. 8, line 14 and col. 9, line 52 to col. 10, line 9).

In considering claim 5, the claimed further comprising a display screen, wherein the first compositing means generates the composite graphical image, the second obtaining means obtains the frames, and the second compositing means composites the frames with the composite graphical image in parallel with each other is met by the video compositor block 108 which blends the output of the graphics display pipeline, the video display pipeline and the passthrough video using the alpha value (Figs. 28-30, col. 9, lines 11-21 and col. 45, line 1 to col. 50, line 46).

In considering claim 6, the claimed wherein the composition information further includes a composition coefficient for each of the images, each composition coefficient indicating a composition ratio of one of the images to a composite of the image with at least another one of the images is met by the alpha values {A(i)} which are in general different for every layer and for every pixel of every layer (Figs. 28-30, col. 9, lines 11-21 and col. 45, line 1 to col. 50, line 46).

Claims 7-9 are rejected for the same reason as discussed in claims 3-5, respectively.

In considering claim 10, the claimed the image compositing order indicates a first overlaying order of the images, the composition coefficients are α values, each of which indicates a composition ratio of one of the images to a composite of the image with images below the image in the first overlaying order is met by the alpha values {A(i)} which are in general different for every layer and for every pixel of every layer (Figs. 28-30, col. 9, lines 11-21 and col. 45, line 1 to col. 50, line 46), and 2) the claimed the calculating means calculate the composition ratio of the video image to the final composite image from α values of the video image and images above the video image in the first overlaying order is met by the video compositor block 108 which blends the output of the graphics display pipeline, the video display pipeline and the passthrough video using the alpha value (Figs. 28-30, col. 9, lines 11-21 and col. 45, line 1 to col. 50, line 46).

Claims 11-13 are rejected for the same reason as discussed in claims 3-5, respectively.

In considering claim 16, the claimed further comprising a storage unit for storing a plurality of graphical images that are obtained by the first obtaining means, wherein the graphical images are each made up of (A) image data which has pixels, a number of which is no larger than pixels of the final composite image and B) layout information which indicates a layout of the images on the final composite image is met by the series of graphics images which is make up the upper layers and the upper layers are preferably composited in memory storage buffers called line buffers, each line buffer preferably is sized to contain pixels of one scan line (Figs. 28-30, col. 9, lines 11-21 and col. 45, line 1 to col. 50, line 46), and 2) the claimed the first compositing means generates the composite graphical image, the calculating means calculates the composition ration of the video image to the final composite image, and the second compositing means composites the frames with the composite graphical image for an overlapping part of the images that is determined by the layout information is met by the video compositor block 108 which blends the output of the graphics display pipeline, the video display pipeline and the passthrough video using the alpha value (Figs. 28-30, col. 9, lines 11-21 and col. 45, line 1 to col. 50, line 46).

In considering claim 17, MacInnis et al discloses all the claimed subject matter, note 1) the claimed further comprising a storage unit for storing the plurality of graphical images obtained by the first obtaining means is met by the FIFO 132 (Fig. 5, col. 9, lines 22-29), 2) the claimed the plurality of graphical images are represented by vector data is met by the raw graphics data or YUV-444 (Fig. 5, col. 9, lines 29-65), and 3) the claimed the first compositing means generates the composite graphical image after converting

the vector data to the pixels is met by the graphics data converter and the graphics

blender 140 (Fig. 5, col. 9, line 40 to col. 10, line 9).

Claim 18 is rejected for the same reason as discussed in claim 1.

Claim 19 is rejected for the same reason as discussed in claim 1.

Claim 20 is rejected for the same reason as discussed in claim 1.

Claim 21 is rejected for the same reason as discussed in claim 1.

Allowable Subject Matter

3.   Claims 14-15 are objected to as being dependent upon a rejected base claim,

but would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims.

Conclusion

4.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Westerink et al. (US Patent No. 6,359,657 B1) disclose simultaneously displaying

a graphic image and video image.

Fierke et al (US Patent No. 6,362,854 B1) disclose effecting video transitions

between video streams with a border.

Porter (US Patent No. 6,208,354 B1) discloses method and apparatus for

displaying multiple graphics images in a mixed video graphics display.

Hagai et al (US Patent No. 6,621,932 B2) disclose video image decoding and

composing method and video image decoding and composing apparatus.

Fujimoto (US Patent No. 5,912,710) discloses system and method for controlling a display of graphics data pixels on a video monitor having a different display aspect ratio than the pixel aspect ratio.

Lumelsky et al. (US Patent No. 5,351,067) disclose multi-source image real time mixing and anti-aliasing.

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trang U. Tran whose telephone number is (703) 305-0090. The examiner can normally be reached on 8:00 AM - 5:30 PM, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on (703) 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TT TT
February 18, 2004

MICHAEL H. LEE
PRIMARY EXAMINER